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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,687	10/27/2003	Kevin J. Powell	1689.0320001	8675
26111	7590	07/12/2005		
STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER KIM, AHSHIK	
			ART UNIT	PAPER NUMBER
			2876	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/693,687

Applicant(s)

POWELL ET AL.

Examiner

Ahshik Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10/27/03 (initial filing of application).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7-8-04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. This application is filed with some informal drawings which are acceptable for  
5 examination purposes only. Formal drawings will be required in response to this Office Action  
or when the application is allowed

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the  
10 basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on  
sale in this country, more than one year prior to the date of application for patent in the United States.

15 3. Claims 1-11, 13, 14, 17, and 19-35 are rejected under 35 U.S.C. 102(b) as being  
anticipated by Hush et al. (US 6,226,300, hereinafter “Hush”).

Re claims 1, 5, 19, 21-26, and 29-35, Hush discloses a method for a plurality of radio  
frequency (RFID) tag to communicate with a RFID reader/interrogator (see abstract) wherein  
each tag contains the identification number. The interrogation method comprises utilizing a  
20 binary tree search method, the tree having multiple levels. As shown in figure 4, the devices and  
interrogator work in bit-by-bit manner in selecting designated RFID tag (col. 6, lines 7+; col. 6,  
lines 21+). For example, when the first bit is 1, then only the tags with the first bit of 1 respond.  
This process is iterated to the next bit until the last bit, and the tag is identified.

Re claims 2, 4, 14, and 17, the tag, on each bit value from the interrogator, must read the  
25 corresponding bit value and either responds (when it matches) or not respond.

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Re claims 3, 10, 11, 27, and 28, one arbitration scheme utilizes a random number (col. 2, lines 26-39).

Re claims 5 and 6, as shown in figure 5, the binary tree is a multiple-level tree, and traversal has to be performed in iterative manner from the intermediate nodes (see figure 4).

5 Re claims 7 and 8, responding to the interrogator upon receiving the first bit is receiving command from the reader and executing the command (col. 2, lines 65+).

Re claim 9, the RFID tag contains an antenna 28 (col. 4, lines 12+) and backscatter circuitry (col. 5, lines 5+).

10 Re claim 13, each bit pattern is treated independently (meaning that first bit is compared, and then next, and so on).

Re claim 20, the RFID tag further comprises a modulator (col. 13, lines 1-4).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all  
15 obviousness rejections set forth in this Office action:

20 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any  
25 evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hush et al. (US 6,226,300) in view of Friedman et al. (US 6,412,086, hereinafter "Friedman").

5 The teachings of Hush have been discussed above. Hush, however, is silent on the random bit generator further comprises an oscillator.

Friedman teaches a radio frequency identification transponder (see abstract) operating in conjunction with RFID base station (col. 1, lines 21+). The RFID tag contains, among other things, a random roll oscillator (col. 5, lines 38+).

10 In view of Friedman's teaching, it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate well-known oscillator to the teachings of Hush in order to successfully generate random number. It is known that some random number generator uses an oscillator in conjunction with clock and register shifting as a method of generating seed value. Accordingly, incorporating an oscillator is within the ordinary skill in the  
15 art.

7. Claims 15 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hush et al. (US 6,226,300) in view of Chainer et al. (US 6,397,334, hereinafter "Chainer").

The teachings of Hush have been discussed above. Hush, however, fails to specifically  
20 teach or fairly suggest that the tag bits contains a timestamp bits or hashed bits.

Chainer teaches a system and the methods for authenticating objects (see abstract) utilizing RFID tags (see col. 2, lines 35+; col. 2, lines 47+). The tag information contains a timestamp or a hash of the data (col. 4, lines 40+).

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In view of Chainer's teaching, it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate well-known timestamp or hashed information into the bit pattern in order to improve the security of the tag. It is the Examiner's view that what goes into the tag can certainly be considered a design variation. Obviously, in certain application (i.e., facility entry embodiment), saving timestamp would be meaningful. In case of EAS (electronic article surveillance) in a department store, a timestamp value may not be crucially important. Accordingly, the content of the tag is largely determined by characteristics of the application. In view of the above, location is user selectable content for a given application. Hashing information improves protection of the data, resulting in improved security of the tag. Such modification would have been an obvious expedient, well within the ordinary skill in the art.

### *Conclusion*

I. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Hulvey (US 6,727,803); Chan et al. (US 5,550,547); Voegelé (US 6,725,014); Heng (US 6,538,563); Snodgrass et al. (US 5,841,777) disclose RFID tags used various embodiments. Applicant is respectfully suggested to carefully review these references.

II. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Ahshik Kim* whose telephone number is (571)272-2393. The examiner can normally be reached between the hours of 6:00AM to 3:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571)272-2398. The fax number directly to the Examiner is (571)273-2393. The fax phone number for this Group is (703)872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [ahshik.kim@uspto.gov].

*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that*

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*sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

5 Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Ahshik Kim  
Patent Examiner  
Art Unit 2876  
July 11, 2005

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